DOCUMENT RESUME

ED 071 953 SO 005 175

AUTHOR	Starr, John W., III
TITLE	The Development of a Program to Make the Historical Museum and Institute of Western Colorado: Grand Junction, Colorado - An Educational Institution.
INSTITUTION	Western Interstate Commission for Higher Education, Boulder, Colo. Resources Development Internship Program.
PUB DATE	21 May 72
NOTE	75p.; Report completed during the Summer 1972 Resources Development Internship Program
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Anthropology; *Community Cooperation; Community Education; Community Resources; *Educational Programs; History; Internship Programs; *Museums; *Program Evaluation; Resource Centers

ABSTRACT

Completed by a WICHE intern as part of an effort to bring together community organizations with institutions of higher education, the report compiles and assesses the educational program presently offered by the Grand Junction Historical Museum and Institute of Western Colorado. A major objective was to help the museum develop a program to change its image at the local, state, and federal levels from one of a basic depository to that of an educational institution. The first part of the booklet deals with the museum's present image, available educational services, and possible future services. The major portion of the report is comprised of materials prepared by the writer as a direct outgrowth of the study and consists of: 1) a museum tour guide; 2) a community news release; 3) a pamphlet of samples of materials on display at the museum; 4) a suggested Greenbelt proposal; 5) a discussion of how the museum and institute can be of educational assistance to Mesa College; 6) a paper written for dissemination to the community on the need to support the museum; and 7) an evaluation of what services should/could be offered to the community by the museum and institute. (SJM)

ED 071953

Educational Programs Through a Small City Museum

by: Dr. John W. Starr, III

SO 005 175

Resources Development Internship Program
Western Interstate Commission for Higher Education

The ideas and opinions expressed
in this report
are those of the author.
They do not necessarily reflect
the views of the
WICHE Commissioners or WICHE staff.

The Resources Development Internship Program
has been financed during 1972 by grants
from the
Economic Development Administration,
Jessie Smith Noyes Foundation,
National Endowment for the Humanities,
National Science Foundation
and by more than one hundred community
agencies throughout the West.

ED 071953

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

THE DEVELOPMENT OF A PROGRAM TO MAKE THE HISTORICAL MUSEUM AND INSTITUTE OF WESTERN COLORADO: GRAND JUNCTION, COLORADO - AN EDUCATIONAL INSTITUTION

Submitted by:

Dr. John W. Starr 3rd
WICHE - Intern
Historical Museum and
Institute of Western
Colorado
5/21/72

PREFACE:

The major intent of this internship was to compile and assess the educational program presently offered by the Historical Museum and Institute of Western Colorado.

The recommendations that are offered are ways in which the educational programs might better meet the needs of the community.

It is for the Board of Trustees to decide the priority.

TABLE OF CONTENTS

PAGE

INTRODUCTION..... 1

THE PROJECT..... 3

THE FINDINGS..... 3

1. What is the present image of the Historical Museum and Institute of Western Colorado as an "educational institution?..... 3

2. What educational services is the Historical Museum and Institute of Western Colorado presently offering?..... 4

3. What additional educational services should/could the Historical Museum and Institute of Western Colorado be offering?..... 5

4. What educational services should/could other educational agencies of the community be offering with the cooperation of and with the coordination of the Historical Museum and Institute of Western Colorado?..... 6

5. What does the Historical Museum and Institute of Western Colorado propose to do to build its image as an "educational institution?"..... 8

6. What materials have been prepared as a direct outgrowth of this study?..... 9

7. What grant proposal has been a direct outgrowth of this study?..... 60

8. What recommendations should be made as a result of this study?..... 67

ACKNOWLEDGEMENTS.....68

INTRODUCTION:

Museums are "educational institutions." This is the basic premise of this investigation. But the realization of this fact by laymen; other educational institutions; and the local, state, and federal governments; has not been widespread. The exhibition function of the museum has been so conspicuous throughout the history of the institution, as to have become in the mind of the average person definitive of the museum, even though it must to be effective, be preceded by the other, more basic activities. For example: at the Federal level it has only been since the enactment of the "Environmental Act of 1976" that museums have been recognized at this level as being part of the definition of "educational institutions."

The Historical Museum and Institute of Western Colorado attempts to fulfill for Western Colorado the basic function of a museum, which is to act as a depository for the prepetual preservation of tangible materials of cultural significance for science, history, technology or the fine art.

Museums are superficially similar to libraries but differ in two important respects. The library is primarily responsible for printed and written materials which record the knowledge, the thoughts and the aspirations of men. The museum, on the other hand, collects and preserves the tangible objects upon which the information in the library is based. The second important difference between the museum and the library grows out of the first; that is, the ideas found in the printed books in the library may be radically changed over the course of time, but it is contrastingly characteritic of museums materials that they never change. They form an imperishable record of the materials of the earth and of life of the earth during the past and present. They preserve evidences of the technological developments of men as they have striven to shape their environments to their human needs. Museums preserve the record's of men's civilizations, supported by the deep conviction that the future grows out of the past. Furthermore, museums preserve those expressions of man's unarticulated ideals, hopes and despairs which we know as fine art.

In these activities, museums are unique social and cultural agencies among the establishments which make up our culture. No other educational, scientific, cultural or aesthetic agency carries out precisely these functions in behalf of mankind.

The mere accumulation of quantities of materials of these kinds offers in itself a resource for better and wider understanding than could ever exist without the accumulation. As a consequence, museums the world over and throughout the history of man have come to be centers of learning, of education and of deepening understanding. Our knowledge of the physical and biological world, and more recently our extension of those

understandings to possible other worlds, has been based on collections in museums. Our daily increasing understanding of our world continues to be based on museum collections, without which the inorganic or organic constitutents of our surroundings would still be scattered, chaotic, unorganized, and unknown. As our knowledge increases, our collections will increase and improve, leading to still greater opportunity for still greater knowledge.

One of the basic functions of museums is called research, and inspite of the current extension of that term to technological improvement and literary review, it still is the kind of research which continues and will continue to add new knowledge and to foster greater precision in the application of our previous knowledge.

The cultural and aesthetic understandings of men likewise are largely dependent upon the accumulation of cultural and aesthetic materials in museums which permit the kind of comparative point of view without which our appreciation can have little depth and no breadth. One cannot appreciate an object of cultural or artistic significance without a standard of comparison to which it can be referred; just as in the scientific fields one cannot know an item without reference to other items, both similar and different.

It is a logical outgrowth of the accumulation and preservation functions of the museum, combined with the increase of knowledge, understanding, and appreciation made possible thereby, that museums should feel impelled to make their contents available to people in general.

THE PROJECT:

The project was built around the following questions:

1. What is the present image of the Historical Museum and Institute of Western Colorado as an "educational institution?"
2. What educational services is the Historical Museum and Institute of Western Colorado presently offering?
3. What additional educational services should/could the Historical Museum and Institute of Western Colorado be offering?
4. What educational services should/could other educational agencies of the community be offering with the cooperation of and with the coordination of the Historical Museum and Institute of Western Colorado?
5. What does the Historical Museum and Institute of Western Colorado propose to do to build its image as an "educational institution?"
6. What materials have been prepared as a direct outgrowth of this study?
7. What grant proposals have been direct outgrowths of this study?
8. What recommendations should be made as a result of this study?

THE FINDINGS:

1. What is the present image of the Historical Museum and Institute of Western Colorado as an "educational institution?"

As a result of extensive communication with many community groups, (School District #51, Mesa College, Community Action, Greenbelt Inc., various other community agencies) as well as members of the community, it is the writer's opinion that the Historical Museum and Institute of Western Colorado has as its basic image that of "exhibition." Museums are "educational institutions". But the realization of this fact by laymen, other educational institutions; and the local, State, and Federal governments; has not been widespread. The basic public definition of museums that holds throughout the United States is shown here in Grand Junction, Colorado.

One of the most pressing objectives that the Historical Museum and Institute of Western Colorado must meet is that of being regarded as an "educational institution" at the local, State, and Federal levels. It is necessary for its survival.

The Historical Museum and Institute of Western Colorado must fulfill for Western Colorado the basic function of a museum, which is to act as a repository for the prepetual

preservation of tangible materials of cultural and educational significance for science, history, technology and/or the fine arts.

It is a logical outgrowth of the accumulation and preservation function of the museum, combined with the increase of knowledge, understanding, and appreciation made possible thereby, that museums should feel impelled to make their contents available to the scholar and the general public.

2. What educational services is the Historical Museum and Institute of Western Colorado presently offering?

The educational services which the Historical Museum and Institute of Western Colorado is presently offering are:

a. To School District #51:

Educational Tours
Classroom lectures
Slide presentations
12 sets Mos hardiness scale
ETV - 12 programs
Field trips - Geology, Archeology
1 Museum Case - display in one school

b. To Mesa College:

Museology Classes
Bibliography Service
Geology, Archeology Laboratory
Archives - History Department
Work Study - Area of educational interest
Published book - combined effort - "Insects of Mesa County"

c. To School District #51 and Mesa College:

Bird Study Specimens - Cooley Collection
Butterfly Specimens - Will Minor Collection
Herbarium Specimens - Winiferd Bull Collection

d. Vocational Rehabilitation Program

e. WICHE Internship Program

f. Mesa College Instructors (some) especially in the sciences take advantage of the museum's facilities to supplement their classes

g. Museum offers Library Book Selection of various areas to Mesa College (ex. Paleobotany)

h. Opportunity of Science Fair winners to exhibit their projects.

i. Some involvement of Community Action group in regard to exhibits and programs.

j. News releases about topics of interest to the community.

k. Tour of the Blind.

l. Programs given that are of interest to the public: Historical Traveling Doll Collection, Historical Fashion Show, etc..

3. What additional educational services should/could the Historical Museum and Institute of Western Colorado be offering?

The additional educational services which should/could the Historical Museum and Institute of Western Colorado be offering are:

a. Make evident to all that this is an "educational institution".

b. Development of research facilities for the use of Mesa College staff and students, professional people of the community for orientation and research.

c. Develop interchange of staff - Museum and Mesa College, Museum staff as Mesa College staff, Mesa College staff as Museum Curators.

d. Developing with Greenbelt Inc. an educational program which would enrich and supplement the curricular offerings of Mesa College, School District #51 and the community.

e. Development of educational materials to supplement, enrich, and add to the present curricular offerings of Mesa College and School District #51.

f. Development of field work areas: exploration, discovery, and study.

g. Expansion of exhibits for educational purposes on a scheduled rotation.

h. Expansion of physical facilities (classroom, laboratory, exhibit area, equipment, improvement of existing facilities, and provision for research).

i. Development of educational materials for the public: publications, radio, TV, slide projection booth on Main Street Mall.

j. Development of educational programs for the public: group discussions, symposiums, classes, ex: environment.

k. Further involvement of community action group in regard to exhibits and programs.

l. Development of the use of the "bus."

m. Extended program of news releases on topics of interest: "Museum News" - a regular offering -- publication of an "Annual Bulletin." (in depth)

n. Expansion of offering educational programs with Mesa College.

o. Expansion of programs given that are of interest to the public: (Ethnic Dances, Historical Fashion Shows, Historical Doll Shows, Historical Displays).

4. <u>What educational services should/could other educational agencies of the community be offering with the cooperation of and with the coordination of the Historical Museum and Institute of Western Colorado?</u>

The educational services which should/could other educational agencies of the community be offering with the cooperation of and with the coordination of the Historical Museum and Institute of Western Colorado be offering are:

a. <u>SCHOOL DISTRICT #51:</u>

Development of educational materials to supplement and enrich present curricular offerings in the areas of: (K-12)

Geology	Minerals, Rocks, & Crystals
Zoology	Anthropology
Botany	Archaeology
Biology	Colorado History
Ecology	

Development of the use of the "bus".

Development of in-service programs for teachers in conjunction with Mesa College, University of Colorado, University of Northern Colorado, Western State College in the areas of sciences and social sci

Development of programs for the "homebound" (tutorial, even closed circut TV)

Development of programs for "handicapped" children using the facilities of the Museum

b. MESA COLLEGE:

Development of educational materials to supplement and enrich present curricular offerings in the areas of:

Geology	Minerals, Rocks, & Crystals
Zoology	Anthropology
Botany	Archaeology
Biology	Colorado History
Ecology	

Expansion of offering educational programs in cooperation with the Historical Museum and Institute of Western Colorado

Museology	Curator Training
Vocational Rehabilitation	

Interchange of staff of Museum and Mesa College

Museum staff--------College Instructors
College Staff-------Museum Curators

Work-Study Programs - 3 hrs. college credit

In areas of History, Political Science, the Sciences, Travel and Recreation Management, Office Management, etc.

Possibility of added financial support from Mesa College

Development of areas of research

c. GREENBELT PROGRAM:

Development of an educational program (environmental education) with the Historical Museum and Institute of Western Colorado, which would enrich and supplement the curricular offerings of Mesa College, School District #51, and the community.

d. COMMUNITY ACTION GROUP:

Involvement in regard to exhibits and programs. Expansion of programs which are of interest to the public. (Ethnic Dances, Historical Dances, Historical Fashion Shows, Historical Doll Shows, etc.)

e. COMMUNITY SERVICE AGENCIES:

Such agencies as Bridge House, NYC, provide opportunities for doing various jobs about the Museum grounds and building

f. STATE HOME AND TRAINING SCHOOL:

Development of educational programs using the facilities of the Historical Museum and Institute of Western Colorado to supplement and enrich the educational program of the State Home and Training School

g. NEWS MEDIA:

Expanded programs of news releases on topics of interest, "Museum News," "Sunday Supplement," regular offerings -- radio, TV, newspapers

h. THE COMMUNITY:

Extension of the facilities of the Historical Museum and Institute of Western Colorado into other community facilities

5. What does the Historical Museum and Institute of Western Colorado propose to do to build its image as an "educational institution?"

The Historical Museum and Institute of Western Colorado proposes to build its image as an "educational institution by:

a. Development of traveling exhibits complete with teaching materials for Mesa College, School District #51, and the community.

b. Development of research facilities for the use of Mesa College staff and students, professional people of the community for orientation and research.

c. Development of field work areas:exploration, discovery, and study.

d. Expansion of exhibits for educational purposes on a scheduled rotation.

e. Expansion of physical facilities (classroom, exhibit area, laboratory, equipment, improvement of existing facilities, and provision for research).

f. Making evident to all that this, The Historical Museum and Institute of Western Colorado is an "educational institution."

6. What materials have been prepared as a direct outgrowth of this study?

The materials that have been prepared by the writer as a direct outgrowth of this study are:

a. MUSEUM TOUR GUIDE:

This was developed for the use of the volunteer tour guides as informational material to help them explain to guests what can be seen in the Historical Museum and Institute of Western Colorado--4/1/72 - 12/1/72.

b. A NEWS RELEASE OF A TOPIC OF INTEREST TO THE COMMUNITY:

"The Crookedest Railroad in The West:" appearing in the Sunday Magazine of the Daily Sentinel, Grand Junction, Colorado, 5/7/72.

c. SAMPLES OF MATERIAL HAVING TO DO WITH SUBJECTS SEEN IN THE HISTORICAL MUSEUM AND INSTITUTE OF WESTERN COLORADO, WHICH WOULD BE OF INTEREST TO GUESTS - MATERIALS TO BE PRESENTED IN PAMPHLET FORM:

Titles: The History of Life on Earth.
Pueblo Archeology.

d. AN INITIAL PROPOSAL TO "GREENBELT INC.":

An initial proposal being sent to Greenbelt Inc. showing the interest of the Historical Museum and Institute of Western Colorado in participating in the development of "Greenbelt."

e. THE MUSEUM AND MESA COLLEGE:

A discussion of how the Historical Museum and Institute of Western Colorado can be of educational assistance to Mesa College.

f. WHY SUPPORT YOUR HISTORICAL MUSEUM:

Written for disemination to the community.

g. EVALUATION - EDUCATIONAL PROGRAMS:

The writer's evaluation of what is and what should/could be offered by the Historical Museum and Institute of Western Colorado as educational services to the community as a whole.

Copies of these materials are presented on the pages following.

1. MUSEUM TOUR GUIDE:

(Begin Lecture by Gift Counter)

I am (guides name) and I welcome (name of the group) to the Historical Museum and Institute of Western Colorado. You are going to see the history of the western slope on which you live. But first lets think a minute. Does anyone know what are the two basic components of our universe? Everything is either one or the other.----Yes---- Matter and Energy. (Matter: a substance which occupies space and which becomes known to us by our senses. Energy: the power of operating, strength or force producing) Let us begin our visit by observing a form of energy in the Fluorescent Mineral Room (Case 1-14). Does anyone know what fluorescence is? --- When atoms that make up some minerals are struck by ultra-violet light rays, electrons are relocated within the atoms. The moving electrons release energy that is seen as colors (light energy). The capacity of responding to ultra-violet stimulation is known as fluorescense. The zinc mining area of Sussex County, New Jersey is famed for fluorsecent zinc ores (Case 3, 61-3). It produces over 100 minerals, many of them unique. Here (Case 4-5) are some of the Western Slope Uranium minerals. (Caution students to keep to right and observe the fluorescence of the minerals as the room is darkened.)

(Proceed to Case 15) Here we see what we call universal building blocks. Let's begin with atoms. Does anyone know what an atom is? Did anyone ever see one? --- It is several thousand times finer than the points of your pencils, so you can see we are talking about something very small and these are the building blocks from which the Western Slope, the world, the universe, and for that matter, you boys and girls are made up of. The building blocks are atoms. This is MATTER. When atoms combine, they form molecules. This is a little larger building block.

A solid molecule is also called a mineral (Case 16-17). How can we identify a mineral? See that one that comes to a point--(Case 16). See this one--they are both minerals. They both have a particular shape. The atoms alsways stack together in that way. (Case 16) Quartz always stacks together with six sides and comes to a point off to the side of the center. Quartz minerals make up most (3/4) of the ground we walk on. So crystal form is one way that we can identify minerals. Another way is by their hardness; some are harder than others (Case 17). Some taste different; some have one color and some another color. These are all minerals of which the earth is made and of which you are made. You don't believe it? You are all made of atoms. Do you eat salt? Salt is a mineral and your body absorbs the salt and it becomes part of your body. Let's review, Minerals are packages of atoms - called molecules - in solid form - Matter. Then, if we take two different minerals and put them together in the same way, we have another package

which we call a rock. (Case 18-19) A rock is simply several different molecules of minerals cemented or glued together by nature into a larger package. The Western Slope thru the last seven billion years of time has been built from atoms making molecules which have made rocks.

Rocks don't always form the same way. Some formed from liquid rock-forming material which we call magma, which forms deep down inside the earth. Magma forms from pressure, from the weight of overlying rock strata; pressure causes heat, (energy) which melts the rock material (matter) and causes it to expand and try to find'it's way to the surface to cool off. Sometimes it explodes from a hole in the ground. We call that a volcano and call the magma which flows out lava. Sometimes it does not get to the surface, but cools off slowly and big crystals build up in the rock material before it becomes solid. These crystals may be granite or gabbro, or syenite. Granite is formed by fire, deep in the earth, and cools slowly. Sometimes when liquid rock forming material is blown from volcanoes into the air, crystals don't have time to grow and this forms what we call obsidian (Case 19). Obsidian looks like black glass, and sometimes is called "volcanic glass." Rocks which form directly from liquid magma are "fire-formed," or Igneous Rocks. (Case 19)

Now suppose that rocks have cooled off and built a big hill on the earth's surface and the wind blows against it. The rocks get hot from the sun and expand during the daytime and at night they cool. This causes them to expand and shrink and soon little pieces start breaking off; the wind starts carrying the pieces to another place and dropping them. It rains and thenlittle chunks of rock wash down the side of the hill into the river; the river carries them out to sea. They settle on the bottom of the river bed or on the bottom of the sea. These sediments can be glued together by salt, iron, or other minerals in the water. Then we have impurities. Water is never prue, but always has some mineral in it. When water dries up, these minerals serve as a cement and glue these sediments together, and form layers of rock. These rock layers look like our Bookcliffs, which are layers of sediments which have been glued together. We call rocks formed in the manner sedimentary rocks. (Case 19) But rocks are formed in other ways. Rocks on the bottom of the Bookcliffs, are hotter than the rocks on top. The reason being that there is pressure from the top rocks which press down on the underlying rocks. Pressure causes heat (energy). If you don't believe it, let the air out of an inflated ballon and hold it against your face. In the same way as we put water on the stove to heat it, heat in rocks causes molecules and atoms to move and try to fly apart; so molecules in rocks on the bottom of the Bookcliffs try to change around. This produces another kind of rock. We call it a "changed form rock" or a fancy Greek name is Metamorphic rock (Case 19). So there are three different kinds of rock; (matter) those formed by fire are the igneous

rocks; those formed by sediments are the sedimentary rocks and then we have the changed form rock or the metamorphic rocks. (Continuing into the Mineral and Gemology Room) On the right (Case 20) we see some gold and silver ore; and platinum-bearing sand. Here is a old gold polk which was used to carry the leaf-gold and nuggests. On the left (Case 21) is some of the equipment used by the pioneer miners here on the Western Slope. Notice the candle used for making light to mine by. Continuing on we see (Case 22-23) various gem stones. We can see how they looked when found and how they looked when polished. These are samples (Case 24) of radio-active minerals in which the atoms are still rapidly moving around. Test yourself to see if you are radio-active. In these cases (25-29) are some of the metals and non-metals found here on the Western Slope. Here some (Case 25) copper, lead and zinc ores. An ore is a mineral that is mined for profit. These are rocks from which men make a living. This is a natural magnet (Case 27) made by nature. It will attract other magnets and is called magnetite. The magnets you buy have been made by man, but this one has been made by nature.

This is pyrite, which is also called fool's gold. (Case 27) Notice the pyrite has a crystal structure like a cube. This is called fluorite. (Case 28) Pyrite is used to make sulfuric acid and fluorite is added to some tooth paste to help prevent tooth decay.

Sometimes hot liquid rock blows out of the ground suddenly and cools in the sir; before it hits the ground like a bomb. In fact we call these volcanic bombs. Here is one above this case, (Case 28) it is streamlined from the air cooling the liquid mass as it flies through the air. On the right (Case 29-31) are some radio-active ores. These uranium minerals are mined on the Western Slope. This map shows where they are mined. (Case 30) From this uranium ore we use another type of energy to work for us - Nuclear energy. At Rulison, (Case 31) some of this nuclear energy was placed in the ground and it blew a great big hole in the earth's crust. Natural gas will collect in this cavity and will be used by people to heat their homes and cook their food.

Here is another unique mineral, Gilsonite. It is only found in this section of the United States. From it can be refined railroad fuels and gasoline. The large refinery is located about 20 miles west of Grand Junction.

Now lets go into the next room. This is a case which once was in a Wells Faego office. The sign board was on an old Butterfield Express Wagon. Inside the case are some scales and assay equipment that was used to weigh and test ores that we have on the Western Slope of Colorado - ores of silver, gold, and platinum. The large scales came from Cripple Creek and were used

about 1870 to weigh rich gold ore. (Case 32)

Here in these cases (Case 33-34) [lecture will depend upon what is finally put into the cases]

Here are fossils (Case 36, 37, etc.) It looks like leaves have grown into the rocks but this is not so. (Case 36) Carbon of the original leaf was left behind without being disturbed in the sands which later solified into rock, and this preserved the leaf as a fossil. A fossil is any evidence of either plant or animal life before written history. A track tells us an animal was there.

Petrified wood is wood which has been replaced by minerals. These are all different types of fossils (Case 36). We are going back to 600 million years ago. In Grand Junction 600 million years ago we were covered by a sea. (Case 38) On the wall at the lower left of this case is something quite unique. Those little ant looking things are not ants but are some little animals that lived here called trilobites. They developed into other types of trilobites which are in this case. These animals are all fossils which have been dead over 300 million years. These trilobites had shells which were external skeletons. They had no internal bone skeletons. The external shell of trilobites was made of chitin. You have a shell of chitin -- your fingernails; so you see you have something in common with the trilobites. But then animals developed a hard shell, which you might say was their home. (Case 38) These brachiopods were some of the first animals to develop hard shells. Brachipods are animals having a foot coming out of their stomachs. They use this foot to move with and to hold themselves to the bottom of the sea. Then animals began doing something man still hasn't learned to do very well (Case 38). They started building houses and living together and getting along. Here is an ancient apartment house that is over 500 million years old. This is colonial coral. Coral still build shell apartment houses today and if you go to the ocean you may see them; they are called coral reefs. Every little hole is where a coral lived. We call this period the Paleozoic Era, which means time of ancient life.

Then came the period of time known as the Mesozoic Era. (Case 40) It is also called the Age of Reptiles and also the Age of Dinosaurs, because these reptiles grew legs and they grew bigger snd bigger until finally they rules the world. As a matter of fact they got so larger that sometimes they were as tall as a three story building.

This is the portion of the caudal (or tail) vetebrae of a Diploducus. (Case 42) The sketch on the back of the case shows you where this portion of the skeleton was located on this giant dinosaur. He was a vegetarian and ate grass and tree leaves.

Some dinosaur swallowed stones, like chickens do today, to help grind up their food. These stones are called gastroliths, or dinosaur gizzard stones. (Case 42)

But about 60 million years ago, the dinosaur became extinct. Why? No one knows for certain, but we think it may have been the change in weather, it became too cold for them. This caused the climate to change tremendously and reptiles are cold-blooded and cannot stand extreme temperature change. Another possibility for the extinction of dinosaurs is that mammals had developed enough by then to eat up all the dinosaur eggs -- no more eggs -- no more baby dinosaurs.

Then came the Cenozoic Era, or time of new life. This began the Age of Mammals. (Case 50) Mammals are warm-bloodied. They shiver when cold to generate body heat and sweat when hot which serves as a built in air conditioner. They have hair, their babies are born alive, and mammals give milk to feed their young.

These are some skull casts of early mammals which lived near here (Case 50). Some looked quite different than anything you see around here today. There were saber-toothed tigers, mastodons, mammoths, giant pigs, and among other things, the first horses. (Case 58) At first, the horse was about the size of a small dog and walked on four toes on each front leg and on three toes on each hind leg. As time went on the horse grew larger, the outside toes began to grow higher up the shank of their legs and the toe-nail of the middle toe developed into a hoof. Today the horse walks on one enlarged toe-nail or hoof on each foot.

For millions of years we have had insects in every part of the world. Here is a butterfly display (Case 66). In this case is something very unique. Shown is a "Homotype," Indra Minori, named for its discoverer, Will Minor. Its sister, the "Holotype," is in the vault. A "Holotype" butterfly is an "average" butterfly which scientists use as a standard of comparison. Individual butterflies in the same species differ, like different people do. Aiding entomologists, "Holotypes," help determine which species a new butterfly belongs to.

A "Homotype" has very similar markings and measurements of the "Holotype."

About the time dinosaurs became extinct, birds began to live here. In these cases (Case 67-81) are some birds from around the world.

Here we see a baby Rocky Mountain sheep (Case 82) and here are some Colorado Game Fish. Here are various grasses that grow in our state and provide food for animals and live-

stock, (Case 83) and here are various plants poisonous to livestock (Case 83B). In the cases on the left (Case 84, 85, 87, 88, 89, 91, 92, 94, 95, 97) are birds that you can see here in Westerr Colorado. In the cases on the right you will see Wildflowers of Western Colorado (Case 86). Buffalo and Beaver (Case 90 and 93) and in the large case (Case 96) an exhibit depicting the interdependence of plants and animals. Look and see how many different plants and animals you can see. In the case here in the corner (Case 98) are a pair of coyote's. In the larger case (Case 99) are Rocky Mountain Goats and in the background you will see the American Bald Eagle. Now, back in this corner (Case 101) you will see a mammal. This is a lion. It is a sea lion. It has hair, gives milk, its young are born alive.

We have seen the ways that the Western Slope of Colorado was built and the life that has lived on it from 600 million years ago up to twenty thousand years ago. Then another mammal came into this area. It was able to think and use tools and fire --- MAN!

The scientist that studies ancient man and modern man is called an anthropologist (Case 100). A scientist who studies just ancient man is an archaeologist (Case 102). Now, how do we know that man was here twenty thousand years ago -- Well, he left behind some of his tools, such as these spear points (Case 104). Later he used rocks to grind up seeds and berries. The rock that he ground on is called a metate (Case 105) and a rock he ground with was a mano. In the beginning, Indians came here to hunt and fish and they didn't raise any crops. Finally, though, they decided to plant some of these seeds and in time they learned to grow beans, corn, and squash. They had to stay in one spot, lomg enough to harvest the crop, so they started to build some type of house (Case 106). They lived in caves and they used to take some of the plants and weave baskets to carry their seeds and belongings in. The baskets didn't hold water very well, so they took some mud and put it in the baskets and that plugged the holes in the baskets so they could carry water in them. But, you know that made their water kind of muddy.

First of all, let me tell you who these people were. The Navajos called them Anasazi Indians, which in Navajo, means "The Ancient Ones." Early Anasazis that made baskets and lined them with mud were called Anasazi Basketmakers (Case 106). They lived in the four corners area --- where Mesa Verde is. Then they found out that they didn't have to make baskets first. All they had to do was to make a pot out of mud and cook it and it would hold water. They found out they could take this mud and make it into blocks, cook the mud blocks and stack them one on top of another and make buildings out of them. Then they

didn't have to stay in caves anymore. Then they took wood and built a little shelter over the top of their homes. Next they progressed to the adobe pueblos.

Here in these cases (Case 107, 109, 110) can be seen some of the pottery made by the ancient Indians in Mexico. Their methods and designing on pottery was similar to those of the Anasazi, and we're not sure who influenced who.

Here are some of the pottery (Case 111-113) that the Anasazi Indians made after they learned to do so by making them out of mud.

Then we had other Indians that came to live near here and still live here today. the Utes, (Case 115, 117, 118). Of course, you know of Chipeta and Ouray. Here are some objects which Chipeta made (case 119). Here's a Ute bridle (case 118) made from horse hair and leather stained with colors from the dyes of desert plants. On the side is some peyote; peyote is a narcotic and is the button of a mescal cactus. It makes you very sick and it is never worth experimenting with.

There are some people that lived here though, before the Utes. They were the Fremont, (Case 114) They lived in the Bookcliff area before the time of Columbus. Here are some objects used by these people.

Today, besides the Utes of Western Colorado, we have the Navajos (Case 120) who came here to hunt and fish and work in the orchards. Today he lives in Arizona and New Mexico. The Navajo people think they came from the Sun God and the Rainbow Goddess. The Sun God is called Yei and the Rainbow Goddess the Bechi and so they came from Yei Bechi.

This is a loom (Case 121) on which the Navajo rugs were woven. Here are some pottery (Case 122) made by the descendents of the Anasazi Pueblo Indians who live today in New Mexico and Arizona.

Now let's go back to the room in which we started (Pioneer Room). Before the Indians left the area, the explorers came through here. (Case 123) One of them left behind that very fancy horse bit and another left behind those very heavy spurs. Then the Indians were moved out of here and the pioneers came. Here (Case 125) is commerated the birth of Grand Junction and honor to Governor Crawford who was very influencial in the development of the Big J Country.

Barbed wire (Case 126) was one of the most important influences in the development of the west. The use of barbed wire resulted in the homesteader being able to fence off his

property and keep the cattle and sheep off his cultivated land. Here are some of the instruments used by the pioneer doctor (Case 127). Notice that some of the instruments could not be sterilized before use. Recognition of the Red Cross which Sarah Barton started in this country about the time of the Civil War (Case 128). Case 129 contains objects from a pioneer drug store, the General Store (Case 130). This (Case 131) case is maintained by the Western Colorado Peace Officers Association. Here are the leg irons used on Alferd Packer when he was brought to justice by Peace Officer "Doc" Shores of Gunnison County. The old time tools for the Cobbler (Case 132). Just what would you think of having to sit still for 20 minutes to have your picture taken? (Case 133) Home-Cookin. (Case 135) How would you like to have to use the "stomper" or the "hand-washer" today (Case 136)? Development of the light to read and work by (Case 137). Apple Parar (Case 138). School House (Case 139). Compare the old-time magazines with those we have today (Case 140), Nursery (Case 141), Needlework (Case 142), Fan and Frills (Case 143), Historical Dolls (Case 144).

Now let us go upstairs. (Proceed to the Weapons Room, have volume turned off the tape player). This is the Audrey Thrailkill small arms collection. It contains over 1,000 weapons and there are practically no duplicates. The value of this collection is approximately $200,000.00 Each group of weapons is preceded by a letter and each weapon of that group has a number which is the same color as the letter.

(Give five minute tour, using weapons room handout outline which identifies each group of weapons by letter. Name and point out each group for students.)

A complete tour of this room takes over one-half hour. Perhaps in this brief trip through the Weapons Room, you will realize how weapons have changed through the years.

(Proceed to the Hopi Room) Now, (Hopi Room - seat class on floor) I will tell you about some very interesting Indians to the South of us. Some other Indians which have lived on the Western Slope for many, many years are the Hopi Indians. Today the Hopi live on three mesas in northeastern Arizona. The first mesa is called Oraibi, the second - Mesa II, and the third one Mesa III. Well there were some people a long, long time ago who lived on Oraibi. These Indians believed in God, like the paleface. They just called him by the different name.

In the San Francisco peaks in Arizons, the Indians thought that a god called Kachina lived. Some people lived there called the Crow clan. These people wanted to move so they might have neighbors...which they did not have where they were. The Crow Mother came down and asked the Hopi if her people could live there. So the chiefs met in the Kiva...(that is a meeting place

that is a kind of underground room.) (Case 165) and decided that they would let the Crow people come live with them because they knew Kachina; but they could move to Hopiland only if they brought Kachina with them. So the Crow mother said, "yes, we'll do that." So they came to live with the Hopi. Before this happened there was a Hopi that went away to the East. He was looking for peace and the end of pain; when he found these he was going to bring them back to his people. After the Crow people came to live and brought Kachina with them, they danced Kachina dances every year to let the Hopi know that Kachins was there. Well, they lived at Oraibi for a little while and had a lot of children. The Crow's didn't have much land...all the hopi gave them was narrow ledges along the edge of the mesa on which to grow there corn. Being hungry, they went back to the Kiva and asked the Hopi council for more land, and the council said "yes, you jave been doing alright. You brought Kachina; we have seen him in your dances; so you can have more land on Mesa II, but you have to guard the sacred corn shrine." (Which in effect meant they had to raise corn for everybody.) "Also you have to watch for the return of Bahana...(that was the Indian that went away looking for peace and the end of pain)... and when he comes back let us know."

So they moved to Mesa II and guarded the corn shrine and watched for the return of Bahana. Then one day they looked across the desert and there on some strnge animals were people in silver and gold suits coming across the desert. So, excitedly they told all the Hopi that Bahana had returned and they had a big celebration; but they had made a mistake; because it was not Bahana, it was the European Conquistadores, who didn't bring peace to the Indians, nor the end of pain. So today, from Mesa II, the Kachina like you and me, still wait for the return of Bahana or whatever you call him, our Savior.

The Kachina clan makes dolls which they give to their children on religious holidays to teach their children the different characetrs of the Hopi religion. Here is the Crow Mother. (Case 147) Here are some other figures which take part in Kachina dances (Case 149, 156, 157, 158, 159, 161-164) They make baskets today (Case 135) just like the basket makers did long ago in which to carry their grain. Here is some of their pottery. (Case 150-151)

(Snake Dance Paintings, Progress from Right to Left)

There is also another dance along in August every other year---the Snake Dance. They use live rattlesnakes which they collect in the desert around the Mesas (Case 148), and bring them down into the Kiva and place in pots (Case 149). Then they go through certain ceremonies here where they write their messages on the sand (Case 152)and let the snakes out of the pots and put them on the sand paintings to crawl across them

and so the snakes can pick up the message painted there. You see, they also believe besides dwelling in the hills that God is also underground. They want rain, and water comes from the underground where snakes live, more of it comes from the hills and skies...so they get something that is close to the underground to carry their message...the snake. The rattlesnake... because it is very active.

After three days of preparation in the Kiva, they suddenly break the pots (Case 154) and let the snakes out, pick them up and put them in their mouths (Case 159) and they come up out of the Kiva and parade through the village (Case 156) carrying the rattlesnakes in their mouths. This ceremony continues throughout the day (Case 157, 161) and they then return the snakes to the desert as the sun sets to carry prayer messages to the underground (Case 163). The snakes often bite the snake dancers; the snakes are not milked or de-fanged. The dancers do not get sick, and it usually rains.

(Proceed to Big J. Room) -- (lecture depends on what is being exhibited.)

Thank you for visiting the Museum---come again and bring your parents and friends.

2. A NEWS RELEASE OF A TOPIC OF INTEREST TO THE COMMUNITY:

UNITAH R. R.

1904 - 1939

Association Company - Barber Asphalt Co.

Preceding Company - None

Succeding Company - Line Dismantled

The railroad was built to haul gilsonite from mines along the Colorado-Utah border. Operations ceased when trucking took over the work.

Maximum Altitude - 8440 feet, at Baxter Pass

Gauge: - 3 feet, Maximum Grade - 7½%,

Maximum Curve: 80 degrees, later 66 degrees

References:

Narrow Gauge in the Rockies - L. Beebe & C. Clegg
The Story of Gilsonite - H.F. Kretchman
Colorado's Mountain Railroads, Vol. III, - R.A. Lemassena

THE UINTAH RAILROAD

It may have been the only railroad where the engineer and the conductor could shake hands as the train rolled.

Necessity is not only the mother of invention, it also is the begetter of railroads including the snorting, twisting, puffing little Uintah Railroad. Just 72 miles long, it lived only 35 years hauling gilsonite and died before its track had time to get rusty.

A "Forty-Niner" named Gilson got out of Eastern Utah with his hair but with the Ute Indians just three lopes off his heels in 1885.

On the Ute reservation, Gilson had discovered a mineral later named gilsonite, a brittle, black, asphaltine mineral resembling solid petroleum.

It was in vertical veins, and vertical is exact, 10 feet thick, which crossed the desert as far as the eye could reach. Gilson knew it was worth something, but at the moment he didn't have time to find out.

Making far-apart tracks and remembering the Utes were still touchy about their forced exodus from Colorado after the Meeker massacre in '79, Gilson high-tailed out of the country. With his ore sack full of the strange substance, he headed over the hill to parts east where people were more or less civilized, and didn't dance fresh scalps.

Someone had guessed that gilsonite could be used in chewing gum, but Gilson had found out that chewing it was only conducive to lockjaw.

In a long story he learned that scientists could not agree if it was mineral or organic in origin. They still argue the matter.

What did matter to Gilson was that his mystery ore was not only chewable but was actually more important as an additive to roofing products, paint, printers ink and insulating compounds.

Gilson was told there was plenty of demand for the black stuff. He also learned that there were problems getting it to market, at least of which was the hot breath of the Utes on his shirt-tail.

Gilsonite dust exploded seemingly without provocation and without warning, so it couldn't be mined with picks and dynamite.

Then, if and when mined, the nearest vein in the Utah Uintah Basin was 18 miles from a dirt road and some 72 rough and crooked miles from a going railroad, the Denver & Rio Grand at Mack.

Here was fortune sitting in his lap if he could only get the stuff to a market.

He begged and pleaded and petitioned Congress to declare the land vacant, worthless and to slice it loose from the Ute reservation. All efforst failed.

In the meantime, what amounts they did pack out was running low, and by 1902 the demand was so great that the Gilsonite Asphaltum Co. was unable to supply the demand.

In 1903, the Uintah R.R. was being twisted over the 6,000 foot divide between the Green and Colorado river drainages and an indirect rail link was coming between the veins and the railroad. In 1905 the first 53 miles of track from Mack, on the mainline of the D & RGW railroad touched base at Dragon, Utah.

One railroad gandy dancer claimed the only straightaway had three curves in it.

It featured some of the sharpest curves known, the snorting little engines was so close, the engineer could shake hands with the conductor in the caboose. On some of the steepest grades in railroading history the brakeman could walk faster than the cars moved.

The operation was largely financed by Colorado capitalists, among whom was Bert Carlton, the Cripple Creek gold baron, and his friend Spencer Penrose, who was so rich he built the Broadmoor Hotel in Colorado Springs and bought all the girls in a laundry,bicycles so they wouldn't have to walk to work.

These two men, ever seeking new and profitable investments, wanted to spin the wheel of fortune on non-precious metals in Utah, and Gilson's "tar", while shiny, wasn't adapted to making a girl's heart throb.

The junction with the D & RGW was 22 miles west of Grand Junction, and was called "Mack" for John M. Mack, president of the Barber Asphalt Co.

The railroad following snake tracks with rails only three feet apart, headed in a general northerly direction. One stretch alone of only 28.3 miles crossed 36 bridges between Mack and Atchee.

The latter named for a peaceful Ute chief in the area, where the shops and maintenance men lived.

Out of Atchee over Baxter Pass the little monster engine climbed more than 2,000 feet in six miles and then dropped down the other side 1,500 feet in seven miles. From there, for 12 miles to the end of the line at Dragon, the string of cars crossed 37 bridges.

The railroad, in 1904, with a few more bridges was extended nine and one-half miles to Watson and four miles more from Watson to the gilsonite mine at Rainbow.

The Uintah R.R. was all grade. The only level spot was at Atchee and it had a couple of deep arroyos occasionally running flash floods that would swim a granite boulder.

Its highest point was 8,437 feet on Baxter Pass, where the wind piled snow up to the crossarms on telephones poles.

Near the end, its combination mail, baggage, caboose and parlor car took passangers on a 62-mile scenic thrill never to be forgotten. It also served as a dining car when the customers beought their own lunch.

The snorting, puffing little four-wheel engine bucked snow and jerked up grades upward from one per cent to an incredible five miles of constant 7½ per cent rise.

That means it climbed up 7½ feet in every 100. This grade was achieved over a bewilderment of loops, swirls and hairpin turns, the most abrupt of which was 66 degrees.

That means the engineer almost met himself coming back, and as one svientific writer put it, "Determined seekers after premeditated thrills sometimes rode the pilot beam of the articulated engines which thrust out a substantial distance over the brink of the mountains on sharp curves while the wheels quartered inward to follow the lay of the track.

Despite its location midway between Salt Lake and Denver, the terrain covered by the Uintah was dry, remote, and lonely.

The Ute Indians loafed around the stations at Atchee, Wendella, Sewell, and Rainbow Junction to watch the "iron pony" tilt up the grade, especially at Atchee where the track went "up" right beyond the railroad's only water tank near the company shops.

The passing tracks in the sagebrush, a loading platform, and the shanties of maintentance-of-way gangs with one store made up the canyon town.

Denver papers were usually four days old when read in Watson, despite the fact that a daily round trip with an engine and single coach was scheduled on the time table from Dragon to Mack.

Coal was hauled from company owned mines at Carbonera and the tenders were spotted at the mine shaft and fueld with coal which had been burried some 60 million years on the outgoing beach when Western Colorado's second ocen left the country high and dry.

Water for all purposes was tanked from Atchee to points along the 3 foot iron rail all the way from Watson to Mack.

Gilsonite is highly inflammable and the Uintah carried it stacked in several hundred sacks on an open flat car. Occasionally a blazing cinder would drop amongst the burlap sacks half a dozen flatcars back.

On a comparatively level stretch the train could be braked to an immediate halt, and the trainmen could usually confine the flames. It was a critical nuisance when sparks flew on a grade where braking was one of the question and the resulting pyrotechnics resembled a dozen early Fourth of July celebrations.

The Uintah lost money on its mail contract when a Vernal, Utah bank shipped in the tons of brick by parcel post to build their new building which still stands.

The Star Route mail carrier went broke when he was forced to haul the stamped bricks from Watson to the Uintah Basin town.

At the peak of operations, the railroad owned a dozen engines, two of them with saddle tanks. It boasted two passenger coaches, three sleepers, 12 livestock cars, 30 boxcars and 60 flat cars.

In 1939 the Uintah joined the once numerous Colorado narrow gauge carriers in the limbo of railroad history.

Gone, save for a few vestigial traces of grade, is the Uinath from the face of the land.

At Mack and in neighboring communities, Uintah narrow gauge box cars and passenger cars are still in service as tool sheds, chicken coops and gazebos.

Twenty years after the abandonment of the Uintah saw the passing of the trucks that had put the railroad out of business.

In 1947, gilsonite was being hydraulically mined and float-

ed in solution through a gigantic pipeline 72 miles long from Bonanza, Utah, to Gilsonite, near Loma, to produce high-octane fuel for Barber Oil, a subsidiary of Standard Oil of California.

Oddle enough, today the Uintah route gains new life because the right-of-way is being used for that pipline.

3. SAMPLES OF MATERIAL HAVING TO DO WITH SUBJECTS SEEN IN THE HISTORICAL MUSEUM AND INSTITUTE OF WESTERN COLORADO, WHICH WOULD BE OF INTEREST TO GUESTS - MATERIAL TO BE PRESENTED IN PAMPHLET FORM.

THE HISTORY OF LIFE ON THE EARTH:

When the Earth was first formed, more than four billion years ago, life did not exist. A complete and fully acceptable detailed history of the planets may never be deduced, but, as more, and more is known of the Earth's interior and the nature of the planets, the new facts will be fitted into consistent explanations. It is in this respect that the travel of men to other planets will be useful. Through the use of the instruments of science, and the direct sampling of the substances of the planets, much more will be learned of formational stages than is now known, and many new clues will be found to the origin of the solar system.

The earliest forms of life were little more than bits of protoplasm, and, because they had no skeletons or hard parts, there is no fossil record of their nature. The record of life during the eons that preceded the appearance of the first fossils in the rocks is completely lost in the obscurity of the geologic past.

The first evidence of life -- traces of carbon -- is found in rocks which were deposited as limy muds and sands at least half a billion years ago. The times of deposition of these rocks has been named the Archeozoic (Beginning Life) era. During the succeeding era, the Proterozoic (Former Life), simple forms of life continued to develop. Some traces of primitive worms and algae are found, but these are rare and almost impossible to compare with modern animals and plants.

Both Archeozoic and Proterozoic rocks have been altered almost everywhere by the immense metamorphic forces which have caused mountain building; the rocks are folded and usually fractured and recrystallized so that even the few fossils in them are hard to recognize.

Paleozoic (Ancient Life) rocks, in contrast, are not so intensively changed by metamorphism. They contain an abundance of fossils, identifiable remains representing the ancestors of all the great groups of plants and animals that live today, and of some groups which have become extinct, Many characteristics of Paleozoic rocks indicate conditions under which they were deposited, and the environment in which plants and animalslived that left fossil remains.

The oldest Paleozoic fossils are marine animals. Relatives of our crabs, starfish, clams, sponges, snails, octopii and corals occur early in the Paleozoic Era. Later in Paleozoic time, fishes developed; shark-like forms and small, heavily armor-plated types appeared among the first. Some of these eventually came out onto land, already populated with plants and insects, and evolved into the first amphibians. At the same

and for that matter until present day, a great abundance of invertebrates continued to thrive in the sea and in fresh water.

Land animals came into their own during the Mesozoic time. The palm, pine, and ginko forest were inhabited by many varieties of dinosaur which were the dominant group of reptiles. Some of these were, contrary to popular belief, about the size of chickens, but others weighed as much as 80 tons, and reached a length of 90 feet. In Mesozoic rocks, too, were found the earliest birds, reptile-like creatures with teeth and fleshy tails. Modern types of seed plants evolved during the late Mesozoic time.

The Cenozoic Era saw the evolution of mammals, primitive forms at first, later larger forms resembling those we know today. In early Cenozoic time the continents took on many modern aspects; areas of grassland on which developed the horses, camels, and other long-legged animals which depend on speed for their safety; areas of forest and jungle where many other forms of animals, including carnivores, developed.

The Pleistocene Epoch saw great glaciers covering much of the Northern Hemisphere, and cold climates were instrumental in the evolution of such heavily furred animals as the wooly mammoth, the mastodon, and the wooly rhinoceros. Man, too emerged during this time, presumbly in warm southern lands first. As his intelligence increased, man became more independent of his environment than any mammal had ever done before him, and moved northward in his search for food, shelter, and freedom from enemies. Man's relatively rapid advance from a primitive ape-like creature over a million years ago to the dominating organism of the world today is ample evidence for evolution, which is otherwise abundantly attested to in the geologic record.

PUEBLO ARCHAEOLOGY:

About 2000 years ago a revolution occurred in the San Juan area of the Southwest, a revolution based on agriculture. We do not know when this part of the Southwest was settled. Apparently Indians who lived by hunting and gathering food had been moving out of the Great Basin, across the Colorado River and into the mesas and canyons of the 4-corners country of where Colorado, Utah, Arizona, and New Mexico meet. We call these people Basketmaker I because they made no pottery. Hunting and gathering meant constant moving but when they learned agriculture they had to settle down to exploit their corn and squash. The Mongollon and Hohokam Indians, who, lived farther south, had already learned agriculture and pottery making. They may have been the tutors to the Basketmakers.

Basketmaker II. Caves in which the Basketmakers camped, stored their food, buried their dead occur all along the course of the San Juan River. Because many caves were dry, decay did not occur; baskets, wooden objects, and even their dried-mummified bodies were preserved. On corn and squash were grown, but these were supplemented by hunting and gathering. Their weapons consisted of atlatis, or spear throwers, and darts. They had traps and deadfalls, and long nets into which small game was driven and killed, for agriculture they made simple sticks; for gathering, seed beaters and carrying baskets. Usually only flimsy shelters were made but sometimes they built large circular houses which had walls of log and masonry.

When clothed at all, women wore short aprons made of yucca, or cedar bark; men wore breechclouts. Robs woven from fur-wrapped cords served as winter wraps and bedding. Sandels protected their feet. Many ornaments were worn, some made from olivella and abolone shells imported from the Pacific coast. Men had elaborate hair styles, but women usually had short cropped hair for their hair was used for making rope. The people were small and stocky. Most had long narrow heads, but some eastern Basketmakers had short broad skulls.

Basketmaker III. About A.D. 400 Basketmakers learned to make pottery. Agriculture made larger populations possible, so villages began to appear. Houses were made of digging a pit and roofing it with branches plastered with mud. Storage bins were built at surface level near the house. In time both living and storage rooms came to be built at the surface and were joined to make a many-roomed house, but a pit-house was still built for ceremonials. Some time before 700 they learned to raise beans, and to use the bow and arrow for hunting. Feather wrapped cord robes were also made.

Pueblo I. By 700 these people had spread westward into Nevada, northward into northeastern Utah and northwestern Colorado, eastward into the upper Rio Grande area and southward to the Little Colorado River. In this southern area they came in contact with the Mogollon. Stone masonry began and from the building of many-roomed stone houses we get the name Pueblo by which these later people are called. Among the people, heads became shorter and broader, partly because of new hard cradleboard flattened the back of the head. Cotton and cloth weaving led to changes in clothing, and cotton blankets supplemented the older styles.

Pottery, improved in many ways, was smoother, with increasingly intricate painted designs. Most had black paint on a white background, but some was red-on-brown.

Sometime after 850 A.D. the idea of building masonry pueblos and making black-on-white pottery spread south among the Mogollon but was changed and modified to corform to the older traditions.

Pueblo II. Great regional centers sprang up, in the Chaco, Mesa Verde, and the Kayenta area. Differences can be seen in the architecture, and the pottery is so distinctive in design and shape that can be recognized wherever found. In this way the archaeologist traces the trade and movements of primitive people.

Pueblo III. Following the development period a Classic period began about 1100. For nearly two centuries the Pueblo culture was at its height. Houses, pottery, weaving and ornaments were elaborate and common. The leisure necessary for these crafts was possible because of agriculture. Each of the great centers flourished. In the south the Mimbres-Mogollon developed a fantastic style of pottery, but otherwise remained relatively simple as did their Chihuahua neighbors to the south.

In the north things began to go wrong. The increased population probably caused social problems leading to factions and strife. Lack of sufficient agricultural land, and perhaps warfare between Pueblos or against marauders seem to have been factors causing unrest. The drouth lasted 23 years and at the end of that time all the northland was abandoned by the Pueblos.

People of the Mesa Verde moved south and east into the Rio Grande; those of Kayenta into Hopi country and beyond into Mogollon area. The Chaco had already been abandoned, perhaps because of arroyo cutting.

Pueblo IV. As northern Pueblos moved south they pressed in on other peoples. Population pressures developed. Puebloid people moved into the Gilla Valley. Here they lived side by side with the Hohakam sharing the land but each largely carrying on his own type of culture. This strange alliance lasted until nearly 1400 when the Puebloid group disappeared.

Soon after 1300 the new centers of the Little Colorado, the Hopi Mesas, and the Rio Grande were reorganized and reaching new heights. Houses became much larger although not so well made as during the Classic period. Many of the arts and crafts degenerated. Pottery changed, decoration became dynamic rather than static, and reds, blacks, and polychromes replaced the earlier black-on-whites. Probably the typical off-the-shoulder dress of the Pueblo women came in at this time. Then began the exodus of the 1400's. The mountains of central Arizona were abandoned, perhaps because the nomads were on the move again. Only Hopi, Zuni, and the Rio Grande Pueblos remained when the Spainish arrived in 1540.

Increasing inroads by the Spainish caused revolt in 1680, and the explusion of the conquerors. Twelve years later the Spainish returned, and from that day the Pueblos became problems of history and ethnology.

4. SUGGESTED INITIAL PROPOSAL TO "GREENBELT INC."

Mr. B. Blake Chambliss
Treasurer - Greenbelt, Inc.
P.O. Box 2104
Grand Junction, Colorado
81501

Dear Blake:

The Historical Museum and Institute of Western Colorado without question subscribes and supports the concept of Greenbelt; along with its stated values from a historical, economical, educational, environmental, recreational, aesthetic, social and mental health point of view.

It has long been my wish to develop the Museum as an "educational institution." The Historical Museum and Institute of Western Colorado and the Greenbelt Development have unique facilities that would enrich and supplement the educational, environmental, and recreational offering of the community.

I. Historical Development of the Area: This would be from the standpoint of Paleontology, Geology, Biology, and Ecology. Various sites would be identified, developed and preserved within the Greenbelt area.

II. Development of Outdoor Education Facilities: Greenbelt provides the opportunity for the development of "field classrooms" in the areas of:

1. Geology
2. Botany
3. Zoology
4. Biology
5. Ecology

This could be done including the entire educational spectrum of Kindergarten through Graduate School and indeed be expanded to adult education.

The Museum is constantly collecting and classifying materials in the areas of:

1. Minerals, Rocks, and Crystals
2. Anthropology
3. Archaeology
4. Botany
5. Zoology
6. Colorado History

Study sets of these areas and others could be made available to the various educational classes at no cost to the institutions. Teaching materials (guides, lessons, and instructional aids) would be developed by the Museum staff.

The Museum could further provide in various areas the opportunity for research by student and staff member of the institution. This could take the form of individual or group research, application, availability of field sites for study and exploration, development of visual classroom instructional materials and study.

By combining the facilities of the Greenbelt Development and the Museum, a unique program of environmental education would be offered to the educational institutions and the community.

The Museum has the facilities for the development of the necessary teaching materials and could offer itself as a service organization to train teachers, develop talent and make available programs of general education in matters of ecology and the values of an improved environment.

The development and provision for exhibit programs within the Museum, at Greenbelt Development, as well as at the educational institutions which would coordinate with the educational institutions curricula on environmental education would be offered. Textbooks are fine, but learning from the object itself is of particular importance in the field of ecology and the study of nature.

Potential financial support to enable the Greenbelt Development and the Historical Museum and Institute of Western Colorado to offer these services is needed.

Study areas would be developed at the Greenbelt Development and at the Museum, but available to all concerned educational organizations within the community able to utilize and learn from Greenbelt Development and the Museum facilities.

III. Development of a "Pioneer Village": On a site set aside for this purpose. Location to have near access through a ferry to the site. Buggy trails and Narrow Gauge R.R. to be developed.

IV. Accomddations and site development of a Rodeo Area: In which inter-tribal rodeo and area ranchers (Little Britches) events could be held as well as Indian Ceremonials. This area should be convenient to down-town but isolated enough for an Indian campground.

V. Investigation of river dam-site for river transportation and Convention Center: Consider the following proposition. Development of an Independent Study Program where-n students from Mesa College would do the needed research for the various suggestions with the help og the Museum staff. College credit would be given for the work completed. This would be a fine

example of community service and would cost Greenbelt Development nothing, and would enhance the possibility of increased financial support from Mesa College to the Museum.

My staff and I are most anxious to talk with you conserning these various proposals.

Sincerely yours,

Murry E. Mayfield
Director, Historical
Museum and Institute
of Western Colorado

Referring to Section II - Development of Outdoor Education Facilities: An example of "teaching Materials" as Developed by the Museum Staff is Attached:

1. Problem: What are the major characteristics used in grouping animal life?

UNIT: - ANIMALS

PROBLEM: What are the major characteristics used in grouping animal life?

Background Information:

Classification is an attempt to arrange all life in orderly systematic groups to show relationships based on similarities in structure. One begins with a very large group and continues dividing into smaller units until a single type of plant or animal remains. The task is not easy, since there are over 340,000 plants and 800,000 kinds of animals.

Long ago, most names of plants and animals were based upon their habits or uses. Some examples are: the sunflowers, whose trait of facing up to the sun and symbolic resemblance to the sun gave it its name. The cattail, a marsh plant of the grass family, has a superficial resemblance to a cat's tail. The rattlesnake (Genus Crotalus) has a rattle used as a warning. As long as the common name meant a particular plant or animal to isolated people in small communities, names of this kind were satisfactory.

However, common names created problems. In the first place, some organisms, such as the flicker (Colaptes auratus), a common woodpecker of our country, may have had as many as 50 different names. Some of the names given it are "Yellow Hammer," and "high hole." The same bird has different names in different countries as well. Sometimes a single name can refer to different animals. A "blackbird" could be a crow, raven, grackle, or starling. Common names are also inaccurate. For example, consider the following list: starfish, shellfish, silver fish, jellyfish, cuttlefish, and rockfish. The only true fish mentioned, having vertebrae, scales, fins, and gills is the rockfish.

Scientific naming is used to avoid the confusion of common names. Latin terms are used in scientific naming of plants and animals because the language is unchanging, and understood and used by scientific people all over the world. Felis domestics means "the house cat" and nothing else. Only one animal has that name.

Conservation, which means the wide use of our natural resources, involves animal and plant identification and study. It relates all life to its environment.

Materials Needed: (classroom use)

A collection of animal specimens could be obtained from the Historical Museum and Institute of Western Colorado. The student

themselves may be able to provide some living specimens (dependent upon policy of animals in classroom). Some students might have access to trophies that could be shared with the class such as antlers, hides, and mounted birds.

Classroom Activities: (conducted prior to coming to Museum or Greenbelt)

Using the simplified animal key provided, give the student or students an animal specimen they do not know and have them classify it as far as the key takes them. Classify a starfish. Emphasize the two-branching nature of the key. Students should write down each step of the key.

1. Is it animal or plant? (Answer: animal)
2. Is it a vertebrate or invertebrate? (Answer: invertebrate
3. What phylum does it belong to? (Answer: Echinoderms -- spiny skin animals. The student should refer to the simplified guide to look for identifying characteristics)
4. At this point the teacher with the students might set up a bulletin baord display illustrating classification of animals. It could be arranged like a family tree. (phylogenetic) Specimens could be arranged at the base of this display so that yarn could be used to connect them to the branch of the tree where they belong.
5. Another possibility would be to have the students obtain pictures from other sources and cut them out to prepare phylogenetic trees of their own.
6. Have picked students become "experts" in a particular area of classification. They could be insect experts or amphibian experts for example.

On-Site Activities: (conducted at Museum or at Greenbelt)

Have students be alert to observe various life forms and write on their records the name of the animals, their outstanding characteristics and the habitat where they can be/ are observed.

Follow-up Activities: (conducted upon returning to the classroom)

1. The teacher and the students could possibly remake the bulletin baord display utilizing the animals found at the Museum or Greenbelt. All the results of observations could be tabulated to see what kind and how many animals where seen by the whole class.
2. Artistic students could sketch, draw, or paint animal specimens
3. The following activity could be carried out: What Are Some Different Kinds of Animals? Prepare the following

tables and fill them in using the information that you have been able to obtain.

CLASSIFICATION OF ANIMALS

All animals belong in one of two groups:

1. Animals with backbone (Vertebrates)
2. Animals without backbone (Invertebrates)

Animals WITH Backbone - Vertebrates:

1. Fish:
   Fish are water dwelling vertebrates that posses fins and scales and a two-chambered heart with one auricle and one ventricle. They obtain the oxygen they need through their gills. (Examples: trout, perch, pike)

2. Amphibians:
   Amphibians are water - or land - dwelling vertebrates. Gills are present at an early age, but adults breathe with their lungs. Limbs are without claws and the skin is slimy and moist. Numerous eggs are usually laid in water. (Examples: frogs, toads, and salamanders)

3. Reptiles:
   Reptiles are mostly land-dwelling vertebrates with a life cycle completely adapted to land. They breathe through lungs. Their eggs have a leatherly protective shell and they are laid on land. Their limbs have claws and their bodies are covered with scales. They possess essentially a four-chambered heart. (Examples: snakes, turtles, lizards)

4. Birds:
   Birds are warm-blooded vertebrates with feathers. Their forelimbs are modified into wings. They breathe with their lungs and lay eggs with a hard shell. Their bones have air cavities. They possess a four-chambered heart. (Examples: robin, chicken)

5. Mammals:
   Mammals are warm-blooded vertebrates with hair or fur and a four-chambered heart. Young develop within the mother's body, are born alive, and are nourished with milk. They have developed a nervous system. (Examples: cow, horse, man)

Animals WITHOUT BACKBONE: Invertebrates:

1. Arthropods:
   Arthropods have jointed or segmented bodies. They have jointed legs and an outside skeleton called exoskeleton. The name comes from two Greek words Arthron, meaning

hinge or joint, and pous, meaning foot. There are four different groups of arthropods:

a. Crustaceans - water-living arthropods, with a crustlike shell. (Example: crayfish)
b. Arachnids - land arthropods with four pairs of legs. (Example: spider)
c. Insects - land arthropods with three pairs of legs. (Example: ant)
d. Myriapods - land arthropods with many legs. Example: millipede)

2. Mollusks

Mollusks all have soft bodies. Most mollusks secrete a hard shell around themselves. They have unsegemented bodies without jointed appendages. The name comes from the Latin word mollis, meaning soft. There are four main types of mollusks.

a. Amphineura - The bottom surface of the amphineura is taken up by a broad, flat muscoral foot. It has a shell which has eight separate plates, overlapping like shingles on a roof. (example: chiton)
b. Gastropods - The gastropods have a protective coiled shell, They have a large fleshy foot, and a head, eyes, and sensory tentacles. The name means "stomach boot." (Example: snail)
c. Pelecypodas - The pelecypodas have two protective shells. They are often called "Bivalves." The name means "hatchet foot." (Example: mussel)
d. Cephalopoda - The name means "head-footed." In these animals the foot is divided into a number of "arms" wrapped around the head. (Example: octopus)

3. Annelids

Annelids are worms whose bodies are divided into segments, or rings. The nam comes from the Latin word anulus meaning "ring." (Example: earthworm)

4. Nemathelminthes

Nemathelminthes are round worms. Many of them are tiny and threadlike. The name comes from the Greek word nema, meaning "thread" and from the word "helminthes" meaning worm. (Example: worms in dogs, and cats)

5. Platyhelminthes

Platyhelminthes are flat worms, the simplest in body structure. The name comes from the Greek word platy, meaning flat and helminthes meaning worm.

6. Echinoderms
Echinoderms are spiny-skinned animals. Their parts are arranged in a circle around the center of the animal. They have small feet called "tubes feet." (Example: starfish)

7. Poriferans
Poriferans are animals called "pore bearers." They are sponges. They are a collection of shells. (Example: sponges)

8. Coelenterates
Coelenterates are animals with a hollow tube closed at one end and opened at the other. Their name means "hollow intestine." The open end is a mouth and is surrounded by tentacles. The tentacles sting small animals and put them in the stomach cavity. (Example: jellyfish)

9. Protoza
Protozoa means "first animals". They are single-celled animals. One cannot see them without a microscope. (Example: amoeba)

5. THE HISTORICAL MUSEUM AND INSTITUTE OF WESTERN COLORADO AND MESA COLLEGE:

THE HISTORICAL MUSEUM AND INSTITUTE OF WESTERN COLORADO AND MESA COLLEGE:

It is strongly felt that strong ties should be maintained and improved between the Historical Museum and Institute of Western Colorado and Mesa College. The need becomes more evident with Mesa College becoming a four-year degree granting institution.

Becoming a four-year institution will necessitate the addition of instructional aids and materials to enrich and expand the present offerings. Here the Museum can be of assistance.Use of the Museum as a learning laboratory , since it can furnish instructional and research services at a lower cost than if Mesa College went out and bought the instructional material, is more practical.

The Museum has extensive instructional and research holdings in the areas of:

1. Sciences
   a. Botany
   b. Zoology
   c. Physical Sciences
2. Social Sciences
   a. Archaeology
   b. Anthropology
3. Folklore
   a. Indian
   b. Pioneer

The Museum can provide for "field site" study, exploration, and discovery

The Museum is constantly collecting and classifying materials:

1. Development of traveling study sets.
2. Continual updating and change of static exhibits.
3. Colorado History artifacts
4. Developing traveling exhibits complete with teaching materials.

The Museum can provide for student and staff, research in particular areas:

1. Archaeology
2. Anthropology
3. Botany
4. Zoology
5. Folklore

The Museum has the possibility of developing "field classrooms" in the areas of:

1. Geology
2. Botany
3. Zoology
4. Biology
5. Ecology

The Museum can provide for vocational training:

1. Museology
2. Field Site Development

The whole area of adult education with emphasis upon vocational could be developed. At present there is a desperate need for those trained in museology. Here again federal funding is available for staff and program development. Summer field programs could be made available with Museum and College cooperation. This from the standpoint of providing field sites and staff to institutions not having these facilities. Funding coming from these institutions and other available sources. This would stimulate and improve various field methods.

Mesa College has the buildings, students, but needs the learning tools and materials to back up their 4-year status. The museum has those tools and materials and with their cooperation and coordination of curricula can develop others, helping to meet their needs at little additional cost.

With the coordination of the Museum and the various curricula areas - Learning is made viable and not sterile. Learning from a textbook is fine, but learning from the object itself is more lasting.

Students of today demand meaning and understanding from their classes. They are not content to have just one basic avenue of learning - the textbook - which in many cases is outdated before it is first used. Many avenues must be open - one of which is the facility of a Museum, wherein are the actual objects about which the students are learning, in the most natural setting as possible.

6. WHY SUPPORT YOUR HISTORICAL MUSEUM:

WHY SUPPORT YOUR HISTORICAL MUSEUM:

The Historical Museum and Institute of Western Colorado attempts to fulfill for Western Colorado the basic of a museum, which is to act as a depository for the perpetual preservation of tangible materials of cultural significance for acience, history, technology, or fine art.

Museums are superficially similar to libraries but differ in two important respects. The library is primarily responsible for printed and written materials which record the knowledge, the thoughts and the aspirations of men. The museum, on the other hand, collects and preserves the tangible objects upon which much of the information in the library has been based. The second important difference between the museum and the library grows out of the first; that is, the ideas found in the printed books in the library may be radically changed over the course of time in response to the change in men's knowledge or understanding, but it is contrastingly characteristic of museum materials that they never change. They form an imperishable record of the materials of the earth and of life of the earth during the past and the present. They preserve evidences of the technological developments of men as they have striven to shape their environments to their human needs. Museums preserve the record of men's civilizations, supported by the deep comviction that the future grows out of the past. Furthermore, museums preserve those expressions of man's unarticulated ideals, hopes and despairs which we know as fine arts.

In these activities, museums are unique social and cultural agencies among the establishments which make up our culture. No other educational, scientific, cultural or aesthetic agency carries out precisely these functions in behalf of mankind.

The mere accumulation of quantities of materials of these kinds, offers in itself a resource for better and wider understanding than could ever exist without the accumulation. As a consequence, museums the world over and throughout the history of man have come to be centers of learning, of education, and of deepening understanding. Our knowledge of the physical and biological world, and more recently our extension of those understandings to possible other worlds, has been based on collections in museums. Our daily increasing understanding of our world continues to be based on museum collections, without which the inorganic and organic constituents of our surroundings would still be scattered, chaotic, unorganized, and unknown. As our knowledge increases, our collections will increase and improve, leading to still greater opportunity for still greater knowledge.

Measured by attendance, or budget, or exhibit area, the overwhelming majority of American museums are small. If we use an arbitrary yardstick an annual attendance of less than 25,000 or a budget of less than $50,000, well over half of the nation's museums qualify as small.

This is a measurement of size, not value. There is no good way to measure the value of a meuseum to its community, or the aggregate value of all small museums to the nation. What can be said is that if a museum which has enriched the life of a community closes its doors, the community is poorer and so is the nation.

There is one common denominator which applies to most small museums: the budget is inadequate. As a result, the museum is understaffed and the staff is often untrained, the buildings are inadequate and the museum is unable to perform its basic functions properly or meet minimum standards. This generalization does not, of course, fit the case of all small museums, but it does apply to hundreds of them.

It is strongly felt that small history museums have a great potential for portraying the American past, but a potential that in too many cases has not been realized.

Still, the small museums continue to operate, regardless of their problems. They continue because they meet a need that no other community institution does.

The financial problem of the small museum is bigger, in one sense, than that of the large urban museum, in that it has fewer sources of financial support and such sources as it has have a more limited potential. But to the extent that small museums fill both a local and national need, a combination of local and national support could be the answer of their financial problem.

One of the basic functions of museums is called research, and inspite of the current extension of that term to technological improvements and literary review, it still is the kind of research which continues and will continue to add new knowledge and to foster greater precision in the application of our previous knowledge.

The cultural and aesthetic understandings of men likewise are largely dependent upon the accumulation of cultural and aesthetic materials in museums which permit the kind of comparative point of view without which our appreciation can have little depth and no breadth. One cannot appreciate an object of cultural or artistic significance without a standard of comparison to which it can be referred; just as in the scientific fields one cannot know an item without reference to other items, both similar and different.

It is a logical outgrowth of the accumulation and preservation functions of the museum, combined with the increase of knowledge, understanding, and appreciation made possible thereby that museums should feel impelled to make their contents available to people in general. The exhibition function of museums has been so conspicuous throughout the history of the institution, as to have become in the mind of the average person definitive of the museum, even though it must to be effective be preceded by the other, more basic activities.

Just what is the value of the Museum to Grand Junction? The Chamber of Commerce reports that tourism is statistically Colorado's thrid largest industry today and that the present trend of tourism growth will shortly promote it to become the State's second largest industry. Tourism probably annually grosses over $20,000,000 currently for Mesa County.

The State of Colorado conducted a survey within recent years to ascertain why tourists come to Colorado. The primary reason was determined to be our natural scenery. The second reason which the tourists listed was to visit and enjoy the Museums around the State.

Presently Colorado can proudly claim two of the 80 Museums acredited by the American Association of Museums within the United States; Grand Junction shares this honer with the Colorado Springs Fine Arts Center.

AAM accreditation guarentees that our Museum has been examined by a selected professional team and has met the guidlines set forth by AAM through which we are obligated to serve the public in accordance with the highest ethics of the Museum field. This accreditation guarantees the visitor a worthwhile experience such as what he would expect from a visit to the Smithsonian, Field Museum of Natural History, Carnegie Museum, etc.

Your Museum presently averages 30,000 out of town guests per year. These out of town guests stop to eat and shop while in Grand Junction, and often, as a result of their time spent at the Museum, stay over night. The money they spend in our community benefits not only our businesses but every tax payer within the community by adding to the communities gross income. The Museum has chosen to waive admission fees in order to increase its attendance and thereby increase the community's potential profit.

Nationally, States' progressive systems are beginning to incorporate Museums as necessary components of education. Battle Creek, Michigan; Los Angles, Philadephia, etc.own, staff, and operate Museums as an intrinsical part of their school district.

facilities. Grand Junction's Museum presently gives tours on request to primary (K-3), intermediate (4-6), secondary (7-12), and college level classes. Our guides are trained and coordinate these tours to the needs of the student. Guided tours were given to over 5,000 students this past year. In addition the Museum organized 12 educational television programs which are being annually produced by School District #51 and received by 140 classrooms. The Museum staff has delivered on request lectures in every elementary school of School Distric #51 and has served in an advisory capacity to students considering entering the physical sciences and/or Museology as professions.

Guided tours are also given to youth groups including Scouts, Boys Club, senior citizens, vocational rehabilitation classes, service and social clubs, State Home and Traing School, and hospital groups.

The Museum has organized and is presently conducting vocational classes at Mesa College for those who wish to enter the Museum field. Two courses are presently be offered for credit and we are working to expand this programinto a vocational program which will prepare the student for museum vocational employment. The Museum is also serving Mesa College as an unoffical extension of its campus, by providing training aids, materials and laboratories for its students.

The Museum is the only institution in Northwestern Colorado which is striving to accept and fulfill the responsibility of preserving the areas natural and cultural heritage. This includes its fossils, archaeological and historical artifacts and historical cultural objects-d'-art (currently we are working to return Harold Bryants paintings to Grand Junction from their present location in Lubbock Texas. We also plan to excavateand preserve a dinosaur skeleton just outside of Grand Junction as soon as possible.

The Museum has one of the three best weapons collections in the United States which attracts international guests. The weapons in the Thrailkill Arms Room have been collected over a period of forty years by Mr. and Mrs. Audrey Thrailkill. Mr. Thrailkill has been a gunsmith as well as a collector of small-arms mosy of his life. As a gunsmith, he has restored each of these weapons, excepting those which are deactivated by law, or are of more historical value in their original condition.

There are over 475 rifles, 550 pistols, and 200 blades in this collection, which contains no duplicates excepting weapons of local historical significance. The collection tells the story of hand-weapons from pre-historic times to modern times.

Your Museum provides in one building, the place in which Grand Junction's guesrs can experience within two hours a cross section of what they might see within this area (if you were lucky) within a year - AND IT'S FREE!

7. EVALUATION - EDUCATIONAL PROGRAMS:

4/12/72

TO: Mr. Murry E. Mayfield
FROM: Dr. John W. Starr 3rd
RE: Evaluation - Educational Programs

EDUCATIONAL SERVICES NOW GIVEN BY THE MUSEUM:

1. School District #51
   a. Tours
   b. Classroom lectures
   c. Slide presentations
   d. 12 sets Mos hardness scale
   e. ETV - 12 programs
   f. Field - trips - Geology, Archaeology
   g. 1 Museum Case - display in one school

2. Mesa College
   a. Museology Classes
   b. Bibliography
   c. Geology, Archaeology Laboratory
   d. Archives - History Department
   e. Work-Study - Area of Educational Interest
   f. Published Book - combined effort -"Insects of Mesa CO."

3. School District #51 and Mesa College
   a. Bird Study Specimens - Cooley Collection
   b. Butterfly Specimens - Will Minor Collection
   c. Herbarium Specimens - Winiferd Bull Collection

4. Vocational Rehabilitation

5. WICHE Interships

6. Mesa College Instructors (some) especially in the sciences take advantage of the museum's facilities to supplement their college classes

7. Museum offers Library Book Selection of various areas to Mesa College (ex: Paleobotany)

8. Opportunity of Science Fair winners to exhibit their projects

9. Some involvement of Community Action group in regard to exhibits and programs

10. News releases about topics of interest to the community

11. Tours for the Blind

12. Programs given that are of interest to the Public

ADDITIONAL OR EXTENDED SERVICES MUSEUM SHOULD OFFER:

1. Make evident to all that this is an educational institution

2. Traveling exhibits complete with teaching materials: Mesa College - School District #51 (Home bound student--Tutorial material)

3. Development of research facilities for the use of Mesa College staff and students, professional people of the community for orientation and research.

4. Develop interchange of staff - Museum and Mesa College, Museum staff as Mesa College staff, Mesa College staff as Museum curators

5. Developing with Greenbelt Inc. an educational program which would enrich and supplement the curricular offerings of Mesa College and School District #51, and the community

6. Development of In-Service Programs for teachers in conjunction with Mesa College, University of Colorado, University of Northern Colorado and Western State College (Sciences and Social Science)

7. Development of educational materials to supplement, enrich, and add to present curricular offerings of Mesa College and School District #51

8. Development of field work areas; exploration, discovery, study

9. Expansion of exhibits for educational purposes on a scheduled rotation

10. Expansion of physical facilities (classroom, laboratory, exhibit area, equipment, improvment of existing facilities, and provision for conducting research)

11. Development of educational materials for the public (publications, radio, TV, slide projection booth on Main Street Mall)

12. Development of educational programs for the public (Discussion, groups, symposiums, classes, ex: environment)

13. Further involvement of community action group in regard to exhibits and programs

14. Development of the use of the "bus"
(The Museum furnishes the bus, driver, and maintenance, to and from museum for school district #51 students, in return district #51 increases support to $10,000.00)

15. Expanded program of News releasesson topics of interest; "Museum News - a regular offering - publication of an "Annual Bulletin" - in depth

16. Expansion of offering Educational Programs with Mesa College (Museology, etc.)

17. Expansion of programs given that are of interest to the public (Historic Dances, Historic Fashion Shows, Displays, etc.)

SCHOOL DISTRICT #51 - should be responsible for the:

1. Development of educational materials to supplement and enrich present curricular offerings in areas of:(K-12)
   a. Geology
   b. Botany
   c. Zoology
   d. Biology
   e. Ecology
   f. Minerals, Rocks, & Crystals
   g. Anthropology
   h. Archaeology
   i. Colorado History

2. Development of the use the the "bus."

3. Development of In-service programs for teachers in the areas of the sciences and social sciences

4. Development of programs for the "Homebound" (Tutorial) (even closed circut TV)

5. Development of programs for "handicapped" child using the facilities of the Museum

MESA COLLEGE - should be responsible for:

1. Development of educational materials to supplement & enrich present curricular offerings in the area of:
   a. Geology
   b. Botany
   c. Zoology
   d. Biology
   e. Ecology
   f. Minerals, Rocks & Crystals
   g. Anthropology
   h. Archaeology
   i. Colorado History

2. Expansion of offering educational programs with the Museum:
   a. Museology b. Curator Training

3. Interchange of staff of Museum & Mesa College
   a. Museum staff----------College Instructors
   b. College staff----------Museum Curators

4. Work-Study Program

5. Development of areas of research

GREENBELT INC. - should be responsible for the:

1. Development of an educational program (Environmental Education) which would enrich and supplement the curricular offerings of Mesa College, School District #51, and the community

COUUNITY ACTION GROUP - should be responsible for:

1. Involvement in regard to exhibits and programs
2. Expansion of programs which are of interest to the public (Historic Dances, Historic Fashion Shows, Ethnic Dances, etc.)

NEWS MEDIA - should be responsible for the:

1. Expanded program of News releases on topics of interest- Museum News - a regular offering, TV, radio, Newspapers-

MUSEUM - should be responsible for the:

1. Traveling exhibits complete with teaching materials: Mesa College, School District #51 (Homebound student, tutorial material), and the community
2. Development of research facilities for the use of Mesa College staff and students, professional people of community for orientation and research
3. Development of field work areas for educational purposes
4. Expansion of exhibits for educational purposes on a scheduled rotation
5. Expansion of physical facilities (classroom, laboratory, exhibit area, equipment, improvement of existing facilities, and provison for research
6. Making evident to all that this is an educational institution

All of the various agencies noted are in complete agreement that the services noted under each agency should be done and could best be done by the named agency in conjunction and cooperation with the others. But agreeing to the necessity of offering these services and actually preforming them are two distinct and different things.

It is absolutely necessary that these services be offered to the community as a whole if the educational program of this community is to improve. Four things hold it back - staff, funds, facilities and community apathy. Furthermore a firm commitment

to "quality" education is needed. A pulling together of all agencies concerned is essential to the success of this overall program.

But for the most part the various educational educational agencies (Mesa College and School District #51) are unable at this time to offer these services. These services so sorely needed just do not have the needed priorities as set by these agencies. Just what can be done?

It is suggested that the Historical Museum and Institute of Western Colorado propose the following:

1. the embarking on a building fund drive to provide for:
   a. expansion of physical facilities. (classroom, laboratory, research facilities)
   b. improvement of existing facilities
   c. updating of exhibits and equipment
2. the creation of the position on the Museum staff of "EDUCATIONAL SPECIALIST." This person to be responsible for:
   a. making evident to all that this is an educational institution
   b. developing traveling exhibits complete with teaching materials
   c. developing with Greenbelt Inc. of an educational program which would enrich and supplement the curricular offerings of Mesa College, School District #51 and the community
   d. development of educational materials to supplement and enrich and add to the curricular offerings of Mesa College, School District #51 and the community
   e. development of educational programs for the public (discussion groups, classes, symposiums - ex: environment)
   f. development of coordination between community action group in regard to exhibits and programs
   g. development of programs of news releases on topics of interest.
   h. development of expanding educational programs through/with Mesa College
   i. expansion of WICHE internship program
3. Examine in detail all avenues of funding (federal, state, and private sources)

If these three parts of this proposal are accepted and achieved, the Historical Museum and Institute of Western Colorado can truly be known as an "educational institution."

7. What grant proposal has been a direct outgrowth of this study?

A grant entitled: "The Development, Organization, and Administration of a Training and Consultation Program in the Field of Museology by the Historical Museum and Institute of Western Colorado and Mesa College, Grand Junction, Colorado; has been submitted under the provisions of the National Museum Act.

The proposal was submitted to:

Mr. Fredrick Schmid
Assistant Director
Smithsonian and National Museum Programs
Smithsonian Institution
Washington, D.C. 20560

Transmittal date: 4/28/72

A summation of the proposal is given on the following pages.

"THE DEVELOPMENT, ORGANIZATION, AND ADMINISTRATION OF A TRAINING AND CONSULTATION PROGRAM IN THE FIELD OF MUSEOLOGY BY THE HISTORICAL MUSEUM AND INSTITUTE OF WESTERN COLORADO AND MESA COLLEGE, GRAND JUNCTION, COLORADO."

SUBMITTED TO THE NATIONAL MUSEUM ACT PROGRAM

APPLICANT ORGANIZATIONS: HISTORICAL MUSEUM AND INSTITUTE OF WESTERN COLORADO AND MESA COLLEGE

SUBMITTED BY:

Murry E. Mayfield, Director
Historical Museum and Institute
of Western Colorado
Grand Junction, Colorado 81501
Area Code 303 - 242 - 0972

PREPARED BY:

Nathan E. Brundridge, Director
Special Programs and Projects
Mesa College
Grand Junction, Colorado 81501
Area Code 303 - 248 - 1511

Dr. John W. Starr, III
Historical Museum and Institute of
Western Colorado
Grand Junction, Colorado 81501
Area Code 303 - 242 - 0971

DURATION OF ACTIVITY: _____

TOTAL FUNDS REQUESTED: _____

DATE TRANSMITTED: _____

PART I.

A. Name and address of institutions submitting proposal;

Historical Museum and Institute of Western Colorado
Accredited by the American Association of Museums
4th and Ute, Grand Junction, Colorado 81501

Mesa College
Administrative Offices
Grand Junction, Colorado, 81501

B. A brief descriptive title of the proposal:

The Development, Organization and Administration of a Training and Consultation Program in the Field of Museology by the Historical Museum and Institute of Western Colorado; Mesa College, Grand Junction, Colorado

C. Name, title and office of principal investigator or project director.

Mr. Murry E. Mayfield - Director
Historical Museum and Institute of Western Colorado
4th and Ute
Grand Junction, Colorado 81501

D. Estimate starting date and duration of project:

Starting Date: _____

Duration of Project: _____

PART II.

A brief abstract or summary of the proposal of 250 words or less.

The Historical Museum and Institute of Western Colorado in conjunction with Mesa College proposes:

1) To develop, organize, administer an undergraduate program in museology.
   a) 2-year terminal certificate
   b) 4-year Bacculaureate program
2) To develop, organize, and administer an in-service training program in museology.
   a) Geared to meet the unique needs of Indian Museums (Ute Mountain Ute, Hopi, Zuni, White Water, Navajo, etc.)
   b) To meet the needs of museum personnel within a 200 mile radius of Grand Junction, Colorado.

3) To develop, organize, and administer consultant services in museology.
   a) Geared to meet the unique needs of the Indian Museums
      (Ute Mountain Ute, Hopi, Zuni, White Water, Navajo, etc.)
   b) To meet the needs of Museum personnel within a 200 mile radius of Grand Junction, Colorado.

Museum traing is ideally offered by Museums working with colleges and universities. Out of 6,000 Museums in the United States and even more colleges, only 1 in 60 colleges offer Museum training courses:

1) There are at present, no undergraduate degrees in Museology
2) Only 1 in 20 Museums has a Museum training program.

According to the American Association of Museums:

1) Most Museums operate with too few trained people.
2) Thousands of small Museums (the majority of American Museums are in towns with a population of 20,000 or less) are operated by people with no Museum training.
3) Better educated Museum employees - both in the liberal arts and in Museology/Museography are critically needed.

It is strongly felt that the development, organization, and administration of a program as proposed will help to alleviate the situation as noted above.

PART III.

A. If this project has been previously maintained or conducted by your organization, please provide a statement of its history.

An introductory Museology program was begun in September 1971 in conjunction with Mesa College and its Continuing Education Department.

A 4-credit hour course, Introduction to Museology I was offered during the evening of the Winter Quarter.

Museology II was offered during the Spring Quarter.

B. Please indicate the amounts and sources of previous funding.

C. Include any final reports or interim reports of previous activity

The program appeals to younger students seeking a career, not just adults already working who may want to take night courses. Consequently, beginning in the Fall of 1972 Museology will no longer be part of the Continuing Education Division but will be offered instead through the regular day school - Physical Science Department

PART IV:

Budget Breakdown of total estimated cost of project;

A. Salaries and Wages: List all professional, supporting, and other personnel by title or type, percentage of time per work week spent on project (i.e. 100%, 50%, 25%, etc.) and amount charged to project. Indicate fringe benefits seperately.

B. Supplies and Materials: Indicate major categories with estimated costs, such as office supplies. etc.

C. Travel: Cost of travel should be in general according to organization's travel practices and should be identified as domestic or foreign. Generally, allowances for air travel should be less than first-class accomodations

D. OtherList all other costs by specific sub-catagory:

E. Indirect Costs:

F. State Cost (Total) of Project:

G. State total amount requested from National Museum Act Program:

_____

H. If cost of project is not being requested from the National Museum Act, please list sources and amounts of balance of funding.

_____

PART V.

Description of Project: A statement of the objectives and procedures proposed and the current state of knowledge in the project area. Also include a plan of operations, in outline, including methodology, roles of key investigators, and schedule of work. Curricula vitae of investigators should be attached.

PROJECT TITLE:

_____

PROJECT OBJECTIVES:

_____

WHY ARE TRAINING PROGRAMS NEEDED IN MUSEOLOGY/MUSEOGRAPHY?

_____

WOULD MUSEUM TRAINING ATTRACT STUDENTS?

_____

WHAT ARE THE JOB OPPORTUNITIES AFTER GRADUATION?

_____

VOCATIONAL EDUCATION IN MUSEOLOGY:

_____

VOCATIONAL EDUCATION IN MUSEOGRAPHY--A SUGGESTED SCHEDULE AND CURRICULUM:

_____

MUSEOLOGY--A FOUR YEAR COURSE OF STUDY LEADING TO A COMBINED DEGREE:

_____

INDEPENDENT STUDIES IN MUSEOLOGY:

INSERVICE TRAINING FOR MUSEUM PROFESSIONALS:

REGIONAL SERVICE CENTER AND CONSULTANT SERVICE:

QUALIFIACTIONS FOR INSTRUCTORS - CONSULTANT SERVICE:

VITAE OF INVESTIGATORS:

8. What recommendations should be made as a result of this study?

It is recommended that:

a. The Historical Museum and Institute of Western Colorado strongly work with Greenbelt Inc. in the development of an educational program, (Environmental Education) which would enrich and supplement the curricular offerings of Mesa College, School District #51, and the community.
That this proposal be submitted to the appropriate agencies for funding.

b. A scheduled (if possible) program of news releases be developed that cover topics of interest to the community (Museum News column or periodic Sunday Supplement articles, etc.)

c. There be continued and improved working relationship with School District #51.

d. There be continued and improved working relationship with Mesa College.

e. Therebe continued and improved working relationship with the various community agencies and the community as a whole.

f. As a means of coordination and implementation, the creation of the position on the staff of the Historical Museum and Institute of Western Colorado of Educational Specialist.

g. The Historical Museum and Institute of Western Colorado examine in detail all avenues for funding (Federal, State, Local, and private sources)

ACKNOWLEDGEMENTS:

The author wishes to thank the following people for making this internship possible and also to thank them for their help, guidance.

Mr. Murry E. Mayfield: Director, Historical Museum and Institute of Western Colorado, Grand Junction, Colorado

Mr. Robert Hullinghorst: Programs Director, Western Interstate Commission for Higher Education, Boulder Colorado

Miss Amy Roosevelt: Director, Local Programs for the Colorado Council on the Arts and the Humanities, Denver, Colorado

Mrs. Beverly Goodrich: Asst. Director, Historical Museum and Institute of Western Colorado, Grand Junction, Colorado

Dr. Donald L. Oglesby: Superintendent of Schools, Mesa County Valley Schools District #51, Grand Junction, Colorado

Dr. Theodore Albers: President, Mesa College, Grand Junction Colorado

Mr. Rick Medina: Director, Community Action Committee, Grand Junction, Colorado

Mrs. Vivian Russel: Secretary, Historical Museum and Institute, Grand Junction, Colorado

The preceeding intern report was completed by the following intern:

Name: Dr. John W. Starr III

Address: 861 Grand Avenue - Apt. 1
Grand Junction, Colorado 81501

Immediately prior to this internship, the intern was a student at:

College:

Major Field:

Year in School:

The preceeding intern report was read and approved by:

Name: Beverley Goodrich

Title: Assistant Director

Address: Historical Museum & Institute of W. Colorado
4th & Ute
Grand Junction, Colorado 81501

If you have further comments about this intern report, please write or phone:

Bob Hullinghorst, Director
Resources Development Internship Program
Western Interstate Commission for Higher Education
P.O. Drawer "P"
Boulder, Colorado 80302

Phone: (303) 449-3333

THE RESOURCES DEVELOPMENT INTERNSHIP PROGRAM

The preceding report was completed by a WICHE intern during the summer of 1972. This intern's project was part of the Resources Development Internship Program administered by the Western Interstate Commission for Higher Education (WICHE).

The purpose of the internship program is to bring organizations involved in community and economic development, environmental problems and the humanities together with institutions of higher education and their students in the West for the benefit of all.

For these organizations, the intern program provides the problem-solving talents of student manpower while making the resources of universities and colleges more available. For institutions of higher education, the program provides relevant field education for their students while building their capacity for problem-solving.

WICHE is an organization in the West uniquely suited for sponsoring such a program. It is an interstate agency formed by the thirteen western states for the specific purpose of relating the resources of higher education to the needs of western citizens. WICHE has been concerned with a broad range of community needs in the West for some time, insofar as they bear directly on the well-being of western peoples and the future of higher education in the West. WICHE feels that the internship program is one method for meeting its obligations within the thirteen western states. In its efforts to achieve these objectives, WICHE appreciates having received the generous support and assistance of the Economic Development Administration, the Jessie Smith Noyes Foundation, the National Endowment for the Humanities, the National Science Foundation, and of innumerable local leaders and community organizations, including the agency that sponsored this intern project.

For further information, write Bob Hullinghorst, Director, Resources Development Internship Program, WICHE, Drawer "P", Boulder, Colorado, 80302, (303) 449-3333.

END

DEPT.OF HEALTH
EDUCATION AND
WELFARE
U.S. OFFICE OF
EDUCATION
ERIC
DATE FILMED

5 7 73